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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/680,084	10/06/2003	Xiong Gong	220002071600	9929

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EXAMINER

THOMPSON, CAMIE S

ART UNIT	PAPER NUMBER
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1794

MAIL DATE	DELIVERY MODE
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09/29/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/680,084	Applicant(s) GONG ET AL.	
	Examiner Camie S. Thompson	Art Unit 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on RCE filed 8/31/09.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 5-30, 32 and 35-38 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 5-30, 32, 35-38 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) ☒ Notice of References Cited (PTO-892) | 4) ☐ Interview Summary (PTO-413) |
| 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) ☐ Information Disclosure Statement(s) (PTO/SB/08) | 5) ☐ Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) ☐ Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on August 31, 2009 has been entered.
2. Applicant's amendment and accompanying remarks filed August 31, 2009 are acknowledged.
3. Examiner acknowledges amended claims 1, 13, 27 and 29.
4. The rejection of claims 1, 5-8, 20-30, 32 and 35-38 under 35 U.S.C. 102(e) as being anticipated by Thompson et al., U.S. Patent Number 6,869,695 is overcome by applicant's submission of declaration.
5. The rejection of claim 19 under 35 U.S.C. 103(a) as being unpatentable over Thompson et al., U.S. Patent Number 6,869,695 in view of Bazan et al., U.S. Patent Number 6,999,222 is overcome by applicant's submission of declaration.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 1, 5-18, 20-30, 32 and 35-38 are rejected under 35 U.S.C. 102(e) as being anticipated by D'Andrade et al., U.S. Patent Number 7,009,338.

Comment [d1]: Where do you have "at least one conjugated semiconducting polymer" and "the fluorescent emission is higher in photon energy than the phosphorescent emission" as claimed

D'Andrade discloses an organic light emitting device comprising an anode; a hole transporting layer; an emissive region; an electron transporting layer and a cathode; wherein the emissive region is comprised of a host material and a plurality of emissive dopants with at least one dopant being a phosphorescent material as per instant claims 1, 13, 27 and 29(see reference claim 9). The reference discloses that the light emitting device emits white light and is fabricated to have CIE chromaticity coordinates f about (0.33,0.33) as per instant claim 21. Figures 8 and 15 disclose a hole injecting layer disposed between the anode and the emissive region wherein the hole injection layer comprises PEDOT:PSS as per instant claim 28. It is disclosed in column 5, lines 11-60 the current density vs voltage characteristics. D'Andrade discloses that the emissive region comprises at least one fluorescent material and one phosphorescent material (which can include two or more phosphorescent materials) as per instant claims 8, 12, 30 and 32 (see column 7, lines 23-59). The reference discloses that the phosphorescent material is an organo metallic material with the center atom being iridium as per instant claim 37 (sees column 8, lines 10-11 and column 5, line 59-60). It is disclosed in column

Art Unit: 1794

8, lines 52-63 that the host material is poly(9-vinylcarbazole) or polyfluorene (conjugated, semiconductive polymer and fluorescent material) or a blend of materials as per instant claims 5, 7, 14-17,30, 32, 35-36. Column 4, lines 30-32 discloses a color rendering index of at least 70 as per instant claim 23. Column 3, lines 60-68 of the reference discloses that the host material has a wide energy gap so as to inhibit energy transfer between the phosphorescent dopants, thereby making the fluorescent emission of the host material have a higher photon energy than that of the phosphorescent emission of the dopant. Polyfluorene has a fluorescent emission higher in photon energy than the phosphorescent emission of the organometallic material (phosphorescent material). The reference claims disclose that the emissive region comprised of a host material (polyfluorene) and a plurality emissive dopants wherein the emissive region comprises a plurality of bands and each emissive dopant is doped is doped into a separate band within the emissive region and the combined emission of the host and dopants span to the visible spectrum to give white emission .

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over D'Andrade et al., U.S. Patent Number 7,009,338 in view of Bazan et al., U.S. patent Number 6,999,222.

D'Andrade discloses an organic light emitting device comprising an anode; a hole transporting layer; an emissive region; an electron transporting layer and a cathode; wherein the emissive region is comprised of a host material and a plurality of emissive dopants with at least one dopant being a phosphorescent material (see reference claim 9). The reference discloses that the light emitting device emits white light and is fabricated to have CIE chromaticity coordinates f about (0.33,0.33). Figures 8 and 15 disclose a hole injecting layer disposed between the anode and the emissive region wherein the hole injection layer comprises PEDOT:PSS. It is disclosed in column 5, lines 11-60 the current density vs voltage characteristics. D'Andrade discloses that the emissive region comprises at least one fluorescent material and one phosphorescent material (which can include two or more phosphorescent materials) (see column 7, lines 23-59). The reference discloses that the phosphorescent material is an organo metallic material with the center atom being iridium (see column 8, lines 10-11 and column 5, line 59-60). It is disclosed in column 8, lines 52-63 that the host material is poly(9-vinylcarbazole) or polyfluorene (conjugated semiconductive polymer and fluorescent material) or a blend of materials. Column 3, lines 60-68 of the reference discloses that the host material has a wide energy gap so as to inhibit energy transfer between the phosphorescent dopants, thereby making the fluorescent emission of the host material have a higher photon energy than that of the phosphorescent emission of the dopant. Polyfluorene has a fluorescent emission higher in photon energy than the phosphorescent emission of the organometallic material (phosphorescent material). The reference claims disclose that the emissive region comprised of a host material (polyfluorene) and a plurality emissive dopants wherein the emissive region comprises a plurality of bands and each emissive dopant is doped is doped into a separate band within the emissive region and the

Art Unit: 1794

combined emission of the host and dopants span to the visible spectrum to give white emission.

Column 4, lines 30-32 discloses a color rendering index of at least 70 as per instant claim 23.

The D'Andrade reference does not disclose that the organometallic compound is tris(2,5-bis-

2(9,9'dihexylfluorene)pyridium)iridium. D'Andrade discloses that the phosphorescent emitter is

an iridium complex. Bazan discloses an organic light emitting device comprising an emissive

layer disposed between an anode and a cathode wherein the emissive layer comprises

polyvinylcarbazole and tris(2,5-bis-2(9,9'dihexylfluorene)pyridium)iridium. The combination of

the iridium complex and the polyvinylcarbazole affects the rate of recombination. Therefore, it

would have been obvious to one of ordinary skill in the art to use (2,5-bis-

2(9,9'dihexylfluorene)pyridium)iridium in the Thompson reference in order to have acceleration

of the emission rate.

Response to Arguments

10. Applicant's arguments with respect to the present claims have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Camie S. Thompson whose telephone number is 571-272-1530. The examiner can normally be reached on Monday-Friday 8:00 am - 6:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, D. Lawrence Tarazano can be reached on 571-272-1515. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/D. Lawrence Tarazano/
Supervisory Patent Examiner, Art Unit 1794

/Camie S Thompson/
Examiner, Art Unit 1794